

REMARKS

Objection to Specification

The specification has been amended per the Examiner's suggestion to correct a minor typographical error. This amendment is believed to fully address the Examiner's objection to the specification.

Claim Rejections

The Examiner has rejected claims 1-20 under §103 as being obvious over Aarnio in view of Lim. Applicant respectfully traverses and requests reconsideration.

Claims 1-4

Independent claim 1 requires the steps of 1) "transmitting said location service message from said location server to a base station subsystem"; 2) "forwarding said location service message from said base station subsystem to a serving GPRS support node"; and 3) "forwarding said location service message from said serving GPRS support node to said mobile station." Thus, claim 1 explicitly requires that the location service message go from the location server to the base station subsystem, from the base station subsystem to the serving GPRS support node, and then from the serving GPRS support node to the mobile station.

As the Examiner points out, Figure 1 of Aarnio (and the accompanying text) show a location server 22 communicating with a mobile station 12 via a GPRS network 14.

Further, Applicant readily admits that the Aarnio GPRS network likely includes base stations and also includes a serving GPRS support node. Also, the Examiner identifies Aarnio's "location information" as the claimed "location service message." Assuming

arguendo that this identification is correct, the flow of the location service message in Aarnio is simply not that claimed in claim 1. Aarnio makes very clear that the path followed by the "location service message" is from the location server 22 to the GPRS network 14 to the mobile station 12. Aarnio provides no insight as to how the message is handled internally to the GPRS network 14. However, as is understood by one of ordinary skill in the art, a conventional GPRS network handles messages (in general) by routing them from the "outside" to a serving GPRS support node, and then to the base station. Nowhere in a conventional GPRS system, or in Aarnio, is it disclosed to send the location serving message a base station subsystem before "forwarding said location service message from said base station subsystem to a serving GPRS support node," as required by claim 1. As such, Aarnio plainly fails to teach or suggest the process claimed in claim 1.

Figure 1 of Lim shows a cell location center (CLC) 101 communicating with a base station controller/mobile switching center (BSC/MSC) 103 via a short message service center (SMSC) 102. Further, the Figure 1 shows that the BSC/MSC 103 communicates directly with the mobile station (MSs) 104. Thus, assuming *arguendo* that the Examiner's assertion that the CLC 101 qualifies as a location server, then the Examiner's assertion that Lim shows "a base station serves as an intermediary for communications between a location server and a mobile station" is correct. However, nowhere does Lim even mention a serving GPRS support node, and certainly not that a location service message is transmitted to a base station subsystem from a location server before "forwarding said location service message from said base station

subsystem to a serving GPRS support node," as required by claim 1. As such, Lim plainly fails to teach or suggest the claimed process.

From the above, it is clear that neither Aarnio nor Lim teach or suggest the claimed process. Further, the combination of Aarnio and Lim does not teach or suggest the claimed process, assuming *arguendo* that such a combination is proper. The Examiner attempts to graft the "base station as intermediary" aspect of Lim into the system of Aarnio to show the claimed process. However, even if it assumed that Aarnio uses a "base station as intermediary" between the location server and the mobile station, there is absolutely no suggestion as to where the imported base station fits in Aarnio's communication chain with respect to the location server and the serving GPRS support node. The imported base station could easily go between the serving GPRS support node and the mobile station, "downstream" (for downlink communications) from both the serving GPRS support node and the location server; indeed, this is where one of ordinary skill in the art would understand that a base station should properly go. But in such a modified system, the location service message would be forwarded from the serving GPRS support node to the base station subsystem, not the claimed process of forwarding from the base station subsystem to the serving GPRS support node. Thus, even if Aarnio is modified as suggested by the Examiner, the modified process does not satisfy every limitation of claim 1. In other words, the Examiner's modified process simply does not teach or suggest the claimed process; therefore, the combination of Aarnio and Lim cannot render obvious the invention of claim 1.

In view of the above, Applicant submits that independent claim 1, and its dependent claims 2-4, define patentable subject matter over the cited art.

With further regard to dependent claim 3, this claim requires that the process include "transmitting said link control message [which 'encapsulat[es] said location service message'] from said serving GPRS support node to said base station subsystem and relaying said link control message from said base station subsystem to said mobile station." Thus, claim 3 explicitly requires that the location service message pass through the base station subsystem twice:

1. "transmitting said location service message from said location server to a base station subsystem" and "forwarding said location service message from said base station to a serving GPRS support node."
2. "transmitting said link control message [which 'encapsulat[es] said location service message'] from said serving GPRS support node to said base station subsystem and relaying said link control message from said base station subsystem to said mobile station."

Whatever the Aarnio communications system may do when modified according to Lim, such as system simply does not teach or suggest that the location service message passes through the base station subsystem twice. Accordingly, Applicant submits that dependent claim 3 defines patentable subject matter over the cited art, even if claim 1 does not.

Claims 5-8

Independent claim 5 requires: 1) "transmitting said location service message from said mobile station to said serving GPRS support node"; 2) "forwarding said

location service message from said GPRS support node to a base station subsystem supporting said mobile station"; and 3) "forwarding said location service message from said base station subsystem to said location server." In simple terms, claim 5 is similar to claim 1 discussed above, but claim 5 is directed to the uplink communications (up from mobile station), while claim 1 is directed to the downlink communications (down to mobile station). Thus, for reasons similar to those expressed above with respect to claim 1, Applicant submits that independent claim 5, and its dependent claims 6-8, define patentable subject matter over the cited art. Further, for reasons similar to those expressed above with respect to dependent claim 3, Applicant submits that dependent claim 6 defines patentable subject matter over the cited art, even if claim 5 does not.

Claims 9-12

Independent claim 9 requires "said support node receiving downlink location service messages from said base station subsystem and forwarding said downlink location service messages to said mobile station, said support node further receiving uplink location service messages from said mobile station and forwarding said uplink location service messages to said base station subsystem" (emphasis added). As pointed out above with respect to claim 1, the modification of Aarnio according to Lim, as suggested by the Examiner, still fails to show the "support node receiving downlink location service message from [the] base station subsystem" and "forwarding said downlink location service messages to said mobile station." Thus, for reasons similar to those expressed above with respect to claim 1, Applicant submits Aarnio modified

according to Lim fails to teach or suggest each claimed limitation of claim 9.

Accordingly, Applicant submits that independent claim 9, and its dependent claims 10-12, define patentable subject matter over the cited art.

Claims 13-16

Independent claim 13 requires: 1) "transmitting said location service message from said location server to a base station subsystem"; 2) "forwarding said location service message from said base station subsystem to a serving GPRS support node"; and 3) "forwarding said location service message from said serving GPRS support node to said LMU." As pointed out above with respect to claim 1, the modification of Aarnio according to Lim, as suggested by the Examiner, fails to show this claimed process. Accordingly, Applicant submits that independent claim 13, and its dependent claims 14-16, define patentable subject matter over the cited art.

Claims 17-20

Independent claim 17 requires: 1) "transmitting said location service message from said LMU to said serving GPRS support node"; 2) "forwarding said location service message from said GPRS support node to a base station subsystem supporting said LMU"; and 3) "forwarding said location service message from said base station subsystem to said location server." As pointed out above with respect to claim 5, the modification of Aarnio according to Lim, as suggested by the Examiner, fails to show this claimed process. Accordingly, Applicant submits that independent claim 17, and its dependent claims 18-20, define patentable subject matter over the cited art.

Request for Telephone Interview

If any issues remain unresolved after the Examiner considers this response, the undersigned requests a **telephone interview** with the Examiner to discuss the same prior to issuance of a further Office Action of any kind.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.


John R. Owen
Registration No.: 42,055
Telephone: (919) 854-1844

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